

**NUCLEAR REGULATORY COMMISSION**

**[Docket No. 040-08980]**

**Notice of Availability of Environmental Assessment and Finding of No Significant Impact  
for License Amendment for Heritage Minerals, Inc., Manchester Township, New Jersey**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Notice of availability.

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**SUPPLEMENTARY INFORMATION:**

**I. Introduction**

The U.S. Nuclear Regulatory Commission (NRC) is considering the issuance of a license amendment to Materials License No. SMB-1541 issued to Heritage Minerals, Inc. (HMI or the licensee), to authorize release of the NRC-licensed areas of its facility in Manchester Township, New Jersey (the Heritage site) for unrestricted use and license termination, and has prepared an Environmental Assessment (EA) in support of this amendment in accordance with the requirements of 10 CFR Part 51. Based on the EA, the NRC has concluded that a Finding of No Significant Impact (FONSI) is appropriate. The amendment will be issued following the publication of this Notice.

Enclosure 3

## **II. EA Summary**

The purpose of the proposed amendment is to allow the release of the NRC-licensed areas of the licensee's Manchester Township, New Jersey facility for unrestricted use and license termination. HMI was authorized by the NRC on January 2, 1991, to possess radioactive source materials resulting from past minerals processing operations at the site. The facility was used by HMI and previous owners from 1973-1989 for the mechanical processing of dredged native sand to extract various heavy minerals (zirconium and titanium). The native sand also contained natural uranium and thorium, which were concentrated in the waste tailings of the processing operation.

In 1989, HMI began reprocessing stockpiled tailings to extract any remaining heavy minerals, producing a more concentrated waste stream. The resultant waste tailings from this process contained a concentration of uranium and thorium in excess of 0.05% by weight, meeting the 10 CFR Part 40 definition of radioactive source material (10 CFR 40.4). This concentration exceeds the unimportant quantity exemption for source material stated in 10 CFR 40.13(a), and therefore required an NRC license. HMI separated the source material from all other waste material, and stored this sand within a stockpile area that was later enclosed by a fence. On March 10, 1989, HMI submitted an application for an NRC source material license. Before the license was issued, reduced demand and price for zircon caused HMI to cease processing activities, and no additional source material was added. On January 2, 1991, the NRC issued Materials License No. SMB-1541 authorizing HMI to possess the stockpiled source material and to perform decommissioning of the impacted areas of the site (two mill buildings and the ground beneath the stockpile), comprising approximately one acre.

The ground (approximately 287 acres) between and surrounding the impacted areas contains uranium and thorium concentrations that are above background but below 0.05% by weight. The above-background concentrations of source material in these regions resulted from staging and regrading waste sands from previous (unlicensed) processing activities. Because the source material concentration of this material is below 0.05% by weight, it remains exempt from NRC regulations, and is not part of the license. Removal of this material may be required by the State of New Jersey. Within this region, however, NRC confirmatory surveys identified several pockets of material exceeding 0.05% source material concentration by weight. NRC staff determined that these pockets were inadvertently formed from the staging and grading of the exempt material described above. Consequently, the staff determined that this material was "licensable," in that it met the 10 CFR Part 40 definition of source material. The staff required HMI to remediate all pockets of licensable material in the same manner as the licensed material.

On March 4, 2005, HMI requested that NRC release the facility for unrestricted use. Both mill buildings have been demolished and only the concrete pads remain. The stockpiled licensed material has been disposed and the ground beneath the pile excavated. The pockets of licensable material identified between the impacted areas have also been excavated and disposed offsite. The HMI has conducted surveys of the impacted areas and the remediated pockets and provided information to the NRC demonstrating these areas meet the license termination criteria for unrestricted release in its approved Decommissioning Plan (DP). HMI's DP was previously noticed in the *Federal Register* on September 1, 1999 (64 FR 47872-47877), along with a notice of an opportunity to request a hearing.

The 10 CFR 20 Subpart E, "The License Termination Rule" (LTR), bases termination of NRC licenses and release of facilities for unrestricted use on meeting residual radioactivity levels distinguishable from background, that do not result in a Total Effective Dose Equivalent

(TEDE) to an average member of the critical group above 25 millirem (mrem) per year. The rule was a change from past practice, which based release of a site for unrestricted use on meeting specific concentration-based cleanup levels. When the LTR was published (62 FR 39088), a provision was included in 10 CFR 20.1401(b)(3) to “grandfather” sites with DPs submitted to the NRC before August 20, 1998 and approved by August 20, 1999 (the approval date was extended to August 20, 2000 for twelve sites, including Heritage Minerals, by SECY-99-195). Grandfathered sites are decommissioned under the criteria in their approved DPs, using the previous concentration-based cleanup levels. These cleanup standards were considered to result in a dose less than the public dose limit of 100 mrem/yr, specified in 10 CFR 20.1301.

The NRC staff has prepared an EA in support of the proposed action of terminating HMI’s Materials License No. SMB-1541, and releasing the NRC-licensed areas of the Heritage site for unrestricted use. The staff evaluated the request from HMI and the results of their surveys, performed independent, confirmatory measurements, and performed a quantitative dose assessment of the licensed areas. The mill pads were modeled with the assumption of reuse of the structures for residential occupancy. The highest resultant TEDE for this scenario is 1.6 mrem/yr. The stockpile area was modeled for a suburban resident, resulting in a maximum possible TEDE of 40 mrem/yr.

### **III. Finding of No Significant Impact**

The staff has prepared an EA in support of the proposed license amendment to terminate HMI’s license and release the NRC-licensed areas of the Heritage site for unrestricted use. The staff has found that the radiological environmental impacts from the proposed action would not exceed the public dose limit of 100 mrem/yr. Surface and

groundwater analyses performed at the site confirm that no significant radionuclide transport or elevated concentrations are occurring in the surface water or aquifer system. The NRC staff has determined that the proposed action would have no impact on site geology, ecology, or water. The staff has also found that the proposed action is procedural in nature because HMI has completed all NRC-required remediation at the site. On the basis of the EA, NRC has concluded that there are no significant environmental impacts from the proposed action of terminating HMI's license and releasing for unrestricted use the NRC-licensed areas of the Heritage site, and has determined not to prepare an environmental impact statement.

#### **IV. Further Information**

Documents related to this action, including the application for amendment and supporting documentation, are available electronically at the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. From this site, you can access the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. The ADAMS accession numbers for the documents related to this notice are:

	Summarized Document Description	ADAMS Accession No.
1	"Five Options for NRC Approval of Disposal or Onsite Storage of Thorium or Uranium Wastes From Past Nuclear Operations," dated 10/23/81	ML033630718
2	FC 83-23 "Termination of Byproduct, Source, and Special Nuclear Materials Licenses," dated 11/4/83	ML003745523
3	Letter terminating Heritage plant activities, dated 8/23/90	ML030370350
4	Additional Information for License Application, dated 7/25/90	ML030370324
5	Environmental Assessment and Finding of No Significant Impact for HMI DP, dated 10/19/99	ML003721778
6	HMI Final Status Survey, dated 11/25/01	ML021150357
7	NRC Confirmatory Survey Report, dated 4/10/02	ML021060589
8	HMI proposed additional remediation activities, dated 3/10/03	ML030830547
9	HMI amendment to proposed additional remediation activities, dated 5/6/03	ML031320537
10	NRC Confirmatory Survey Phase 2, dated 12/31/03	ML040250070
11	HMI proposed final remediation activities, dated 6/30/04	ML041910222
12	NRC letter accepting proposed final remediation activities, dated 11/17/04	ML043240049
13	HMI Termination Request, dated 3/04/05	ML050960109
14	Soil Sample Results from HMI, dated 2/14/05	ML050960038
15	NJDEP comments on draft HMI EA, dated 7/12/05	ML052000408
16	Dose Assessment for Unrestricted Future Use Scenarios of the HMI site, dated 8/25/05	ML052410061

If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737, or by email to [pdr@nrc.gov](mailto:pdr@nrc.gov).

These documents may also be viewed electronically on the public computers located at the NRC's PDR, O 1 F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee.

Dated at King of Prussia, Pennsylvania this       day of       , 2006.

FOR THE NUCLEAR REGULATORY COMMISSION

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